

## PROJECT DESCRIPTION

## I. GENERAL

This project involves the upgrading of an existing Traffic Control Flasher to a full color Traffic Control Signal at the intersection of MD33 (St Michaels Rd) and MD 370 (Unionville Rd) / Old Bloomfield Rd in Talbot County. The existing street lighting shall remain. An advance Traffic Signal Warning Beacon shall be installed on the eastbound approach of MD 33. MD 33 (St Michaels Rd) is assumed to run an east-west direction. Video detection shall be used for the MD 370 (Unionville Rd) / Old Bloomfield Rd approaches.

## II. INTERSECTION OPERATION

- The intersection is to operate in a NEMA four-phase, semi-actuated mode, with the MD33 (St Michaels Rd) approaches running concurrently. The MD 370 (Unionville Rd) / Old Bloomfield Rd approaches shall also run concurrently.
- The existing cabinet shall be utilized at the intersection of MD33 (St Michaels Rd) and MD 370 (Unionville Rd) / Old Bloomfield Rd. A new full-traffic-actuated, eight-phase controller with one (1) four channel, rack mount loop detector amplifier and power supply shall be installed into the cabinet.
- A full-traffic-actuated, eight-phase controller housed in a NEMA size "5" pole-mounted cabinet shall be installed for the Traffic Signal Warning Beacon..

## III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
- All controller cabinet wiring will be performed by the S.H.A. Signal Shop Contact Mr. Ed Rodenhizer at (410) 787-7650 seventy-two hours in advance of intended work.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

## EQUIPMENT LIST

## A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

| ITEM NO. | DESCRIPTION   | QUANTITY |
|----------|---|----------|
| 9001     | Detector rack power supply (To be installed by SHA forces)  | 1 EA     |
| 9016     | Detector amplifier 4-channel rack mount (To be installed into the existing cabinet by S.H.A. Forces). | 1 EA     |
| 9042     | Controller ASC II with telemetry  | 1 EA     |
| 9086     | Video Interface Detection Equipment (1-4 Cameras) to be installed by signal shop                      | 1 EA     |
| 9570     | Sheet aluminum signs to consist of: (ground mount)  | 16 SF    |
|          | W3-3 NEW "SIGNAL AHEAD" sign, (48" x 48") ground mounted with hardware.                               | 1 EA     |
| 9571     | Sheet aluminum signs to consist of: (mast arm)  | 9 SF     |
|          | W3-3 NEW "SIGNAL AHEAD" sign, (36" x 36") with hardware.  | 1 EA     |

## B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

| ITEM NO. | DESCRIPTION  | QUANTITY |
|----------|--|----------|
| 1001     | Maintenance of traffic per assignment.                                     | 2 EA     |
| 2002     | Test Pit Excavation  | 1 C.Y.   |
| 5005     | 24" white heat applied permanent preformed thermoplastic pavement marking. | 80 L.F.  |
| 6005     | Traffic barrier with beam.   | 100 L.F. |
| 6007     | Special traffic barrier with beam end treatment.                           | 1 EA     |
| 6008     | Traffic barrier with beam trail end anchorage.                             | 1 EA     |
| 8001     | Pre-manufactured camera to controller (250' length) cable                  | 2 EA     |
| 8006     | Cut, clean, galvanize and Cap Traffic Signal Structure                     | 2 EA     |

## EQUIPMENT LIST (CONT.)

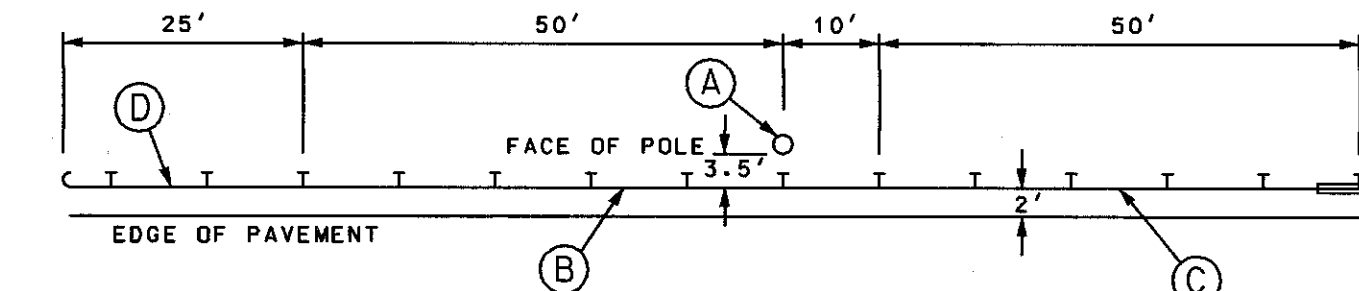
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| ITEM NO. | DESCRIPTION  | QUANTITY  |
|----------|--|-----------|
| 8011     | Furnish and install 12" vehicular traffic signal head section                  | 32 EA     |
| 8023     | Furnish and install 27' mast arm pole and 60' mast arm.                        | 1 EA      |
| 8043     | Furnish and install non-invasive probe set with 1000' lead-in cable.           | 1 EA      |
| 8044     | Furnish and install non-invasive probe set with 500' lead-in cable.            | 2 EA      |
| 8048     | Remove and dispose of existing material and equipment per assignment.          | 1 EA      |
| 8051     | Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - trenched | 1325 L.F. |
| 8057     | Furnish and install concrete for signal foundation.                            | 5 C.Y.    |
| 8059     | Furnish and install wood sign supports 4" x 6".                                | 30 L.F.   |
| 8060     | Furnish and install No. 6 AWG stranded bare copper ground wire.                | 750 L.F.  |
| 8064     | Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - bored.   | 115 L.F.  |
| 8066     | Furnish and install 3" schedule 80 rigid polyvinyl chloride conduit - slotted  | 30 L.F.   |
| 8072     | Furnish and install electrical handhole.                                       | 11 EA     |
| 8074     | Install ground mounted sign.   | 16 S.F.   |
| 8075     | Install overhead sign.   | 9 S.F.    |
| 8080     | Furnish and install ground rod - 3/4" x 10'.                                   | 1 EA      |
| 8084     | Furnish and install electrical cable - 5 conductor (No. 14 AWG).               | 825 L.F.  |

## PHASE CHART

|                    | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                    | (Y)  | (Y)  | (R)  | (R)  | (R)  | (R)  | (R)  | (R)  | (R)  | (R)  | (R)  | (R)  |
|                    | (G)  | (G)  | (G)  | (G)  | (G)  | (G)  | (G)  | (G)  | (G)  | (G)  | (G)  | (G)  |
| PHASE 2 & 6        | FL/Y | FL/Y | G    | G    | G    | G    | G    | R    | R    | R    | R    | R    |
| 2 & 6 CHANGE       | FL/Y | FL/Y | Y    | Y    | Y    | Y    | Y    | R    | R    | R    | R    | R    |
| PHASE 4 & 8        | FL/Y | FL/Y | R    | R    | R    | R    | R    | G    | G    | G    | G    | G    |
| 4 & 8 CHANGE       | FL/Y | FL/Y | R    | R    | R    | R    | R    | Y    | Y    | Y    | Y    | Y    |
| FLASHING OPERATION | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/Y | FL/R | FL/R | FL/R | FL/R | FL/R |

## GUARDRAIL DETAIL



## NOTES:

- PROPOSED TRAFFIC SIGNAL POLE
- INSTALL SINGLE FACE TRAFFIC BARRIER (W BEAM)
- INSTALL TRAFFIC BARRIER - TYPE "C" TRAFFIC BARRIER END TREATMENT STANDARD NO. MD 605.03
- INSTALL TRAFFIC BARRIER - TYPE "1" TRAFFIC BARRIER END TREATMENT STANDARD NO. MD 605.10

The contact persons for District #2 are as follows:

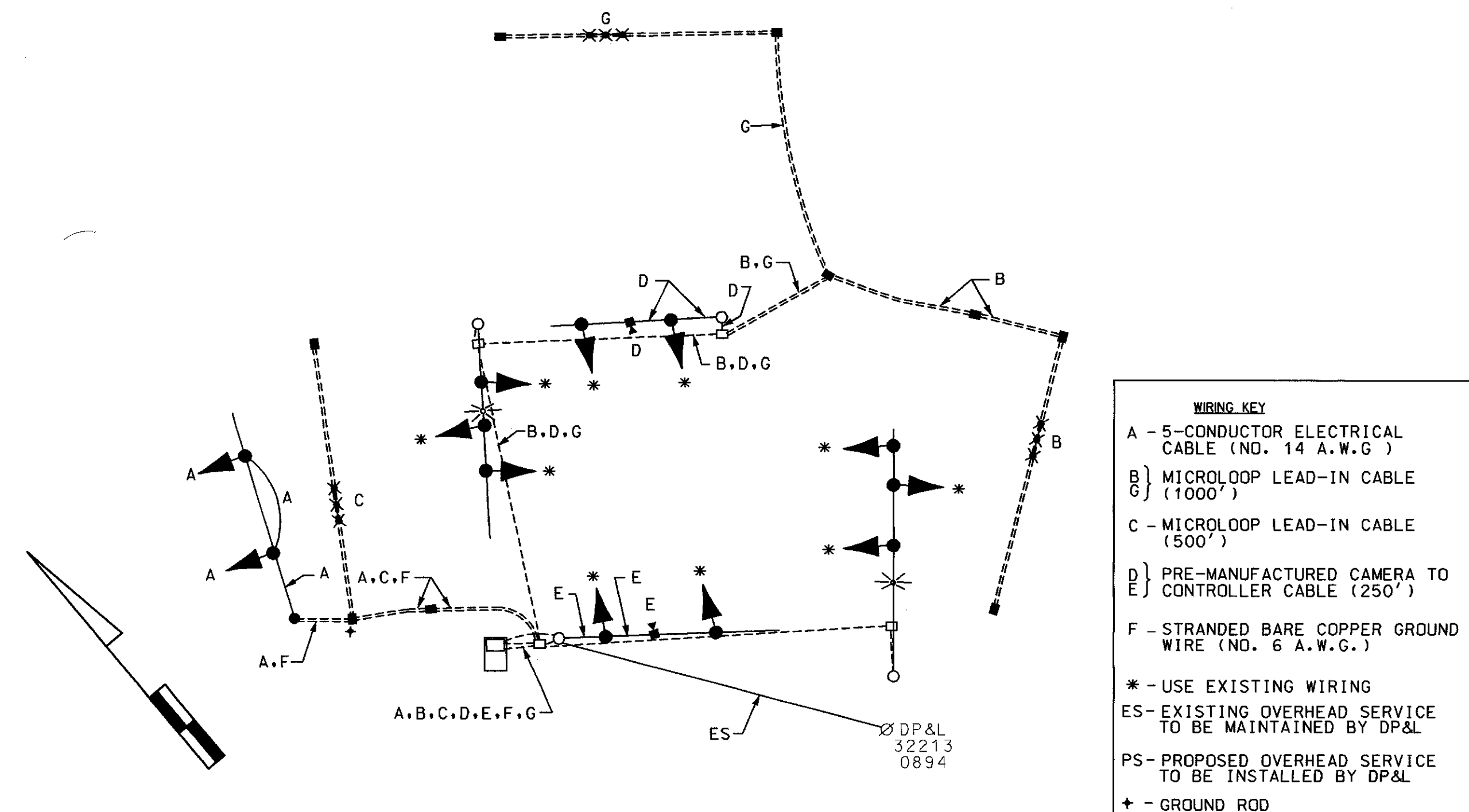
Mr. Robert Kiel  
Assistant District Engineer - Traffic  
Phone: (410) 810-3240

Mr. Terry Wright  
Assistant District Engineer - Maintenance  
Phone: (410) 810-3250

Mr. Barry Clothier  
Assistant District Engineer - Utility  
Phone: (410) 810-3060

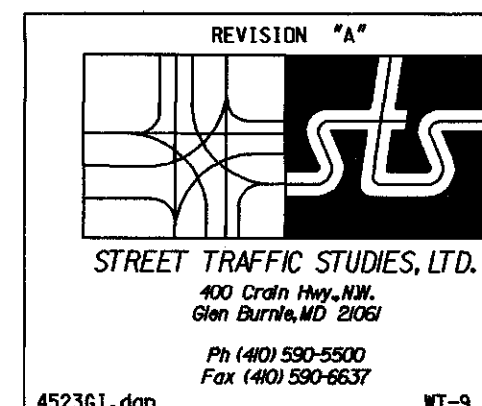
Mr. Richard L. Daff, Sr.  
Chief, Traffic Operations Division  
Phone: (410) 787-7630

The power company representative is:



## WIRING KEY

- A - 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- B - MICROLOOP LEAD-IN CABLE (1000')
- C - MICROLOOP LEAD-IN CABLE (500')
- D - PRE-MANUFACTURED CAMERA TO CONTROLLER CABLE (250')
- F - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- \* - USE EXISTING WIRING
- ES - EXISTING OVERHEAD SERVICE TO BE MAINTAINED BY DP&L
- PS - PROPOSED OVERHEAD SERVICE TO BE INSTALLED BY DP&L
- + - GROUND ROD



Office of Traffic & Safety  
TRAFFIC ENGINEERING DESIGN DIVISION  
MD 33 (ST. MICHAELS ROAD)  
AND MD 370 (UNIONVILLE ROAD)

|                      |                       |                   |                  |
|----------------------|-----------------------|-------------------|------------------|
| DRAWN BY: R CICCHINI | F.A.P. NO. XX1065185  | TS NO. 4172       | SHEET NO. 2 OF 2 |
| CHECKED BY: NONE     | COUNTY: TALBOT        | T.I.M.S. NO. 6083 |                  |
| DATE: 2-10-04        | LOG MILE: 20003320.93 |                   |                  |